

A DOCPHOENIX



| | LKKOK DETECTED | THE DEED BY WHICH WERE INSERTED BY PTO SOFTWARE | | | | |
|-------|----------------------------|--|--|--|--|--|
| ATTN: | NEW RULES CASES: PL | EASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE | | | | |
| 1 | Wrapped Nucleics | The number/text at the end of each line "wrapped" down to the next line. | | | | |
| | | The number/text at the end of control of the many occur if your file was retrieved in a word processor after creating it. This may occur if your file was retrieved in a word processor after creating it. | | | | |
| | | Please adjust your right margin to .3, as this will prevent "wrapping". | | | | |
| - | • | The amino acid number/text at the end of each line "wrapped" down to the next line. | | | | |
| 2 | Wrapped Aminos | This may occur if your file was retrieved in a word processor after creating it. | | | | |
| | • | Please adjust your right margin to .3, as this will prevent "wrapping". | | | | |
| | | ** | | | | |
| _ | to a second tipe Length | The rules require that a line not exceed 72 characters in length. This includes spaces. | | | | |
| 3 | Incorrect Line Length | | | | | |
| 4 | Misaligned Amino Acid | The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs | | | | |
| 4 | Numbering | The numbering under each 5th amino acid is misalighted. This may be tween the numbers. between the numbering. It is recommended to delete any tabs and use spacing between the numbers. | | | | |
| | Hamboning | | | | | |
| 5 | Non-ASCII | This file was not saved in ASCII (DOS) text, as required by the Sequence Rules. | | | | |
| J | . 110 | This file was not saved in ASCII (DOS) text, do required by Please ensure your subsequent submission is saved in ASCII text so that it can be processed. | | | | |
| | | we have black corresponded more than one residue. | | | | |
| 6 | Variable Length | Sequence(s) contain n's or Xaa's which represented more than one residue. | | | | |
| | | As per the rules, each n or Xaa can only represent a single residue. | | | | |
| | | As per the rules, each find Mad can only be per the rules, each residue having variable length and Please present the maximum number of each residue having variable length and | | | | |
| | | indicate in the (ix) feature section that some may be missing. | | | | |
| | | A "bug" in Patentin version 2.0 has caused the <220>-<223> section to be missing from amino acid | | | | |
| 7 | Patentin ver. 2.0 "bug" | A "bug" in PatentIn version 2.0 has caused the <220 - 221 - 220 - | | | | |
| · —— | - | sequence(s)Normally, Patentin would activate the relevant <220>-<223> section | | | | |
| | | sequence(s)Normally, ratefull floods decoupled to the relevant <220>-<223> section previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> | | | | |
| | | previously coded nucleic acid sequence. Please maintain copy into the mandatory <220>-<223> to the subsequent amino acid sequence. This applies primarily to the mandatory <220>-<223> | | | | |
| | | sections for Artificial or Unknown sequences. | | | | |
| | | Sequence(s) missing. If intentional, please use the following format for each skipped sequence: | | | | |
| 8 | Skipped Sequences | Sequence(s) missing. If intentional, please use the following formation | | | | |
| | (OLD RULES) | (2) INFORMATION FOR SEQ ID NO:X: (i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS") | | | | |
| | • | (i) SEQUENCE CHARACTERISTICS: (OU flot linsert air) reasonings and a second sec | | | | |
| | | (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: | | | | |
| | | This sequence is intentionally skipped | | | | |
| | | Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s). | | | | |
| | | | | | | |
| | | Sequence(s) missing. If intentional, please use the following format for each skipped sequence. | | | | |
| 9 | Skipped Sequences | Sequence(s) missing. If intentional, please use the following to | | | | |
| | (NEW RULES) | <210> sequence id number | | | | |
| | | ¢400> sequence id number | | | | |
| | | 000 | | | | |
| | • | the sequence Listing. | | | | |
| 10 | Use of n's or Xaa's | Use of n's and/or Xaa's have been detected in the Sequence Listing. | | | | |
| , | (NEW RULES) | Use of <220> to <223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents. | | | | |
| | | In <220> to <223> section, please explain location | | | | |
| | | Sequence(s) are missing this mandatory field or its response. | | | | |
| 11 | Use of <213>Organism | Sequence(s) are missing this mandataly note and a | | | | |
| | (NEW RULES) | | | | | |
| | • | Sequence(s) are missing the <220>Feature and associated headings. | | | | |
| 12 | Use of <220>Feature | 4 - 200 to 2003 is MANDA LORY IF 2213 ORGANISM IS ANTHONY | | | | |
| | (NEW RULES) | at anotic material in \$220 to \$220 section. | | | | |
| | | (See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules) | | | | |
| | | (See "Federal Register, Grotiso, Vol. 30, 1131 13 17) | | | | |
| | | Please do not use "Copy to Disk" function of Patentin version 2.0. This causes a corrupted | | | | |
| 13 | Patentin ver. 2.0 "bug" | A TOTAL PROPERTY OF THE PROPER | | | | |
| | | file, resulting in missing mandatory numeric identifiers and respective (sometimes of the composition of the | | | | |
| | | Instead, please use Thie Manager or any other means to bey, and the | | | | |

PCT

RAW SEQUENCE LISTINGPATERT APPLICATION: **US/09/701,626**DATE: 01/30/2001

TIME: 11:15:33

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Output Set: N:\CRF3\01302001\1701626.raw

Does Not Comply
Corrected Diskette Needed

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           Vaisvila, Romualdas
           Morgan, Richard D.
           Raleigh, Elisabeth
   8 <120> TITLE OF INVENTION: Restriction Enzyme Gene Discovery Method
  10 <130> FILE REFERENCE: Gene Discovery Method
> 12 <140> CURRENT APPLICATION NUMBER: US/09/701,626
→ 13 <141> CURRENT FILING DATE: 2000-01-12
  15 <150> PRIOR APPLICATION NUMBER: 60/089,086
  16 <151> PRIOR FILING DATE: 1998-06-12
  18 <150> PRIOR APPLICATION NUMBER: 60/089,101
  19 <151> PRIOR FILING DATE: 1998-06-12
  21 <160> NUMBER OF SEQ ID NOS: 130
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Output Set: N:\CRF3\01302001\1701626.raw

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RAW SEQUENCE LISTING

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Output Set: N:\CRF3\01302001\I701626.raw

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| 200 | tagaactita | tegaaatgee | thegateacg | gegaggetag | ctcattcgaa | atatecatat | 10200 |
| 210 | cagagcaaaa | actagaaata | gtttacgatg | gcaaaaaatt | tyacatette | caacttetty | 10200 |
| 211 | accaccagaa | tgcaaacggt | ggcgccgata | ccttgcaaga | aattgtagaa | aaatatggca | T0050 |
| 212 | gtaactitgt | agteaactat | agccacgaag | gcaacaataa | aataataatt | cacaggetet | 10680 |
| 213 | charctttta | egeget tigea. | ccatccctcc | cgtgcgtaat | atcactgagt | gaatacgatg | 10740 |
| 214 | acaaggeeet | agagttagac | ctaactattt | atgagegetg | eggtgeactg | tacataattc | 10800 |
| 215 | taccuttuca | tttttdtada | teagatgtea | gggggctaga | gtcgcagcta | geegeetttg | 10860 |
| 216 | aacctaatgg | aaagccagtt | tacattqtaq | gctcagatgt | ggcagagcct | acaagaaaag | T0350 |
| 217 | caattataga | cagget teec | aacttcacqt | tcqtccaaaa | gcaatgetaa | caatgcgctt | 10980 |
| 219 | aactateact | cacticotic | getagatagt | caaaaqctqc | gettttgtet | gtccgttagc | 11040 |
| 219 | ttaatcotta | ggcgcaagga | gggaccgtga | ctgaaactga | gaaaatggtg | ggtaagttcg | T 1 T O O |
| 220 | teagegattt | tagegggeag | agataccgag | aaatttttga | agtectegaa | tecagtaace | $T.\Gamma.T.P.O$ |
| 221 | ttegeceact | agacaagtca | aatactgaaa | cattgctatt | teagettega | ggggctgata | TT220 |
| 222 | gtgaaatgct | agatatttt | acctttcact | tggggccqcc | gccagtaatt | togittocca | 11.280 |
| 223 | aatcatatto | actagateac | cccagtgaat | taagegetea | tctatccaat | tittcattct | 11340 |
| 224 | COGGGGGGGG | agccataaca | gacccggttt | ctgactcaca | gtatteggea | ggccaggtgg | 11400 |
| 225 | aaatcacccq | ct.ct.act.cat | gagaggatta | ttgaggtttg | caaccgtgtc | tgtgcttccc | 1,1460 |
| 226 | tocaataage | geetaacaac | tagttcaaat | egetegetee | getegetggg | accggcatag | TT250 |
| 227 | ecoaccect t | aaccaagcgt. | t.agat.gcaaa | taacttgagg | ggcacatgca | agactttggg | TIPRO |
| 228 | trecagacgaa | atgcatcat.t. | agaggacagg | getgeggetg | agtictgttat | tgaacgtgtt | 1.1640 |
| 229 | tatetteega | tacagcaget. | ttgcacagag | actggtgacg | taagaaatcg | getteaaata | TT/00 |
| 230 | accattataa | ctctattqcc | ectteaggeg | egtaacttcc | ccattgcgtt | gcagcaagac | TT\00 |
| 231 | ttegattgga | t hat.cagaga | atcaaccaaa | tacaaatcac | catateegea | gtttegggge | 11820 |
| 232 | gacettgaag | caacqatqat. | acqaataaqq | aactcaactg | ggcaaaaaat | cgcgcaaaga | TTRRO |
| 233 | attttcaata | triactoric | gctacaagae | attcgaggtt | tteceetget | tgaatacagg | 1.1940 |
| 234 | gcaatagatg | agtaagcatc | taacaattgg | ttaaaaccyt | tegetteget | cactgggacc | 1,2000 |
| 235 | gactaaaacc | ggccccttaa | ccaaacqtta | ggtaaccaag | ggaaattcac | ttgagttgtt | 12060 |
| 236 | atgtattggg | cacaaacaac | caccattaaa | ggacggtttt | atagtaaatt | teateggaet | 12120 |
| 237 | attaaactaa | aatocttata | cactitiacto | tactactic | - tgttatgete | ctcgctgcat | 1.2180 |
| 238 | acteateasa | gcaaaat.cca | acqccqaaqt | gtactgccag | -cqt.ccccccg | cectetttae | 1.2240 |
| 239 | ccgaaacatc | cacagtatge | ctaggggaaa | gatgtaattg | ggaggtgcta | tttccgtcag | 12300 |
| 240 | gaaaataccc | tocatecaca | gaaggetgea | gagagaatgt | ggtgcagaac | cagcettett | 12360 |
| 2/1 | cetaceegeg | agaagcactt. | gateagtgta | ttgaggggta | -cgcttgggta | geggtttttc | 1.2420 |
| 242 | tgaatgccga | cagaat.ccaa | acateageaa | aggtacttca | atcatcgaat | aaaattttcg | 1.2480 |
| 243 | acagaaatge | cttgctacag | gccagtaata | tattttttga | gcctatgaaa | tgtcaatccg | 12540 |
| 244 | agenttatna | - trecattatt | ctgatgccat | taaactaccg | catactecce | tagtagcggg | 12600 |
| 245 | attgatectt | acaaaatt.ca | ctacttacgt | . ccaagttgaa | gtaggcagtt | taacaactgg | 1.2660 |
| 246 | ttcaagccgc | tegetteget | cactegggae | : cggctaaatt | . cggcccctta | ggcaaacgtt | 12720 |
| 247 | aactatcaga | agggggttg | atgtcaagat | . ttgcgctcgc | gttgattcac | ggagtaccaa | 12780 |
| 248 | cagattttct | tateatitat | actttqtttq | tctqtttcat | . ctaceteaae | egattegaga | 12840 |
| 249 | aauttunauu | atactcagac | agatagaatt | ttgttggaag | agttgtctgc | geatetatag | 12900 |
| 250 | ctatootttt | -catat.ccaca | gttggccatc | : ttcttattga | ageggeagte | aactgggggc | 12960 |
| 251 | tacaacaact | taattataa | ctaccaaact | : atgaaaaaag | aaggacttgt | . agtagetgea | 13020 |
| 252 | adecdadeae | treaggtgac | tacatqttcq | r gettgeteet | : cgggggtgtg | ettggegeeg | 13080 |
| 253 | acteggeaat | traactetaa | acgcgcctgc | r egeteegata | i tgegetgttt | . cgcggcgaaa | 13140 |
| 254 | actgataget | gaacetteea | t.cgaggagat | geaaaagege | : tactgcgcgc | : catictacaaa | 13200 |
| 255 | gacccgaagc | acctcatcca | ggcgctctca | i gecegageet | . gactggctgt | . ggctatcaac | T3560 |
| | | | | | | | |

09/701,626 see p.7

<210> 4 <211> 42143 <212> DNA <213> Unknown

<220>

<223> Description of Unknown Organism: Genomic DNA of Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 4 atcgatcagc cagacttttc gcacacgggc ggaccttggg cgagtcagcg ctatggttgg 60 ccgctgtggg ttgtcagtgc ccgtacgcgc aatctgtttc tttcgcaggg catgtccggc 120 tgggcgttcc ggcccgttct ggtcaccgac tcggctctct atgagcgcta tctcqctcta 180 agtcaggaac tttgcgcact gcttcgtgat gcaccgcaga gcaagctcga agaccgtgat 240 tggtaagcgg gggctattcg atcagtctcg gagcgaccaa actccagaaa cgacaaggcc 300 ctgaaaaaaa agcagggctt cgtctttgcg ggcgaatgga atcggacctc tttccgcctc 360 tgcatgtaac tggtctttgt ttgccaaatc tgcctatctc atgccggcca tgttggccag 420 tgcctgcatc atttggcctt tggtttcgac actttttcga cagccctgct agacatccct 480 ccctctgccc tcgtaacttc tgttccgatg gtgtcgcttg gcactatggt cttgtcgagt 540 gtcgcttttc atccagccta atgccgcgat tgcctcgctg agctgtagct gaatcaagga 600 cttagcggac gacaaggaat gttatgcgaa acatgtggcg gaataaatta cgccgcatgt 660 ttcgtctact tatagttagg ctacatatga gaatcagcgc agaccagctt gctcaagaat 720 cactgactga gttcggcgtg ctggcggcta agcttctggc aacgcgagag cttagccagt 780 tgtccgagaa gtttgggtat gcactggcct tcggaaggga accggcggct gccatagctg 840 aggacettge taggtgettg tgeggacaaa atgettegee ggeatetgaa taececaaaa 900 tcaccgttaa gtatttcaag gaaaacgaaa gtagtctgtt ggcactcgta gagtgttatg 960 tacaaatgac cgcaagcgca aacattcttt tagagctggt tgccgcacga aatggagagg 1020 caataaatct gtatctagaa ggcttgagtg ttgtagccta acaatgcgct caaagcgctc 1080 acttcqttcq ctqqqaccqq cqaaqccqqc cccttaqctt aatcqttaqa aaccatcatq 1140 qataactqqt acaacaccat cqaataccaa acccatqtaq ccqaaaaact aqaqqcactt 1200 ggagaaacaa agtacgaccg cgaggcttat gaattcgcgc tagaggcata ccagtatqcq 1260 cctgaatatc atgaaaatat tcccacgccg cctctcaatc ttgggctcgc gtaccatgta 1320 agegeettea aetttgeaca etgetatgta etteaegeta aagaagtgtt tgaageteea 1380 aaagacacac tgagctcctg gggcgtattt tcctcaacgg acattggtga aattgtttat 1440 ggtttagtcc gtattggctt gctggaccaa ggccccgaag acaaaaaaga gcagtttgaa 1500 gggttgtttt taatcaccga cgtgctgtga tgtcttctaa ctactggttc aagtcgttcg 1560 cttcgctcac tcgggaccgg ctaaagccgg ccccttaacc aaacgttagc cacctcacga 1620 agatttggag cccgcgtgaa caaagtcgat acaaacaaaa ttaaaacgga tttttcggca 1680 cgaattgatg aaaaaagagc gtggtttgat cgtatggcta cgcttataag cgggacaaac 1740 accgagttaa ccgaccttaa ttttctttgc gagaactata taacatcaat atacgtagag 1800 ctcgaatgct taatatcaga tttatttcat ggctacataa ataacaacaa caagacctac 1860 atggcgcaca ttcaatcaaa aatcaagaac tccataactg acaagtactc tgcatggcac 1920 gccacccata caacattcgc aggtccagag catattaatt cagcacagct cagcacgctc 1980 cttgatccaa caagctggaa catcacattt aaagacgttt ccgcaatgaa agtacgagca 2040 aaggaatacc tttcctcagt acacgaaaaa agattttcag gtatatctgc atccgatgga 2100 gctcttattg atgccgcaca tgcaatcaga aattgcattg cacacaacag cgaaagctcc 2160 agaaaggtta tgaacaccaa aattaaaagc ttaattacag gcccagcttg ctcaaatgtc 2220 ggccttgaac tcaccacaaa tagtgtgacc aaaataggaa agtatctccg tgcaaatgct 2280 cagcaaagca tgcgagtgct gatttactca gatcgaataa aatctatcgg cctaagctta 2340 taagtgtggg ctaacaatgc gctcaactgt cgctcacttc gttcgctgga cagccaaaag 2400 ctacqctttt qtctqcccqt taqcttaatc qttaqqaqqc tctqcatqac tcqtqcaaca 2460 gacaggttcg aagagcttct gcaatcacat gagttctcag ggcatattat tcgttgggtt 2520 gcgatattcg aaggccgtct tgacggtgtg ttatcagttc atttttctgg acttgaaagc 2580 acctatgaat totacgaact catactttcc aggttgtctt totacgaaaa aattgaaatc 2640 ctgagaaaaa ttgattttgg taacagtctc aaatcccaag aaaatacagc gctgcaccta 2700 gacaaactga ggcgattgcg taacgcattg gcgcatgcag cacacatgcc acctgatgaa 2760 atcatgaagt tgtgctctga taagtggata gagtcctttg tgctcggata tccaaagtcc 2820

```
geteggeaat ttggetetgg aegegeetgg egeteegata tgegetgttt egeggegaaa 13140
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                                                                          item 10
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gtcagagaga ataaaaaaat caattggtta ttggggtgac aacctaaaga aacattgtgc 15000
```

due to size of fequence t, only the first over in slot sequence shown, Identical event appear elsewhere in the sequence.

FYI:

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.



VERIFICATION SUMMARY

PATENT APPLICATION: US/09/701,626

DATE: 01/30/2001

L:1141 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:4

Input Set : A:\Neb-165a.app
Out.put Set: N:\CRF3\01302001\I701626.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application Number L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:897 M:258 W: Mandatory Feature missing, <221> not found for SEQ 1D#:4 L:897 M:258 W: Mandatory Feature missing, $\langle 222 \rangle$ not found for SEQ ID#:4 L:897 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4 L:1019 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:4 L:1019 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:4 M:340 Repeated in SeqNo=4 L:1141 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:4